

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

CHEVRON MINING,

Plaintiff

vs.

No. 1:13-CV-00328 PJK/JFR

UNITED STATES OF AMERICA,
UNITED STATES DEPARTMENT OF THE INTERIOR,
UNITED STATES DEPARTMENT OF AGRICULTURE,

Defendants.

TRANSCRIPT OF PROCEEDINGS

April 21, 2022

Volume 4
Pages 652 - 712

BEFORE: HONORABLE JUDGE PAUL KELLY
UNITED STATES 10TH CIRCUIT JUDGE

Proceedings reported by stenotype.

Transcript produced by computer-aided
transcription.

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1 THE COURT: Good morning. You may be
2 seated.

3 Everybody has their machines hooked up
4 correctly and everything, I take it.

5 You may call your next witness.

6 MS. CRISHAM PELLEGRINI: Thank you,
7 Your Honor. Your Honor, Chevron calls Dr. Robert
8 Haddad.

9 THE COURT: Come forward and be sworn.
10 (Whereupon the witness was sworn.)

11 MS. CRISHAM PELLEGRINI: Good morning,
12 Dr. Haddad. Thank you so much for coming here.

13 I want to start by offering our
14 condolences for the loss of your mother.

15 THE WITNESS: Thank you very much.

16 And I would like to just take a second and
17 thank the Court for your compassion and allowing us
18 to hold over and also the U.S. Government, I
19 appreciate that.

20 MS. CRISHAM PELLEGRINI: Dr. Haddad, you
21 prepared written direct testimony in this case?

22 THE WITNESS: Yes, I did.

23 MS. CRISHAM PELLEGRINI: Is there anything
24 in that testimony that you would like to update or
25 clarify?

1 THE WITNESS: Yes, there are two
2 clarifications I would like to make, if I could.

3 The first is on Page 25 of the written
4 testimony, and it is in the first answer. And I
5 would like to just redact the last part of the
6 sentence. So the sentence should read, "No, the
7 rest was placed on land Molycorp acquired from the
8 Government via patent," full stop.

9 The second is on Page 28. And it is just
10 a cleaning up of the sentence. It is the second
11 paragraph from the bottom that starts, "After the
12 Red River Valley plan," and I would like to strike,
13 "70 percent and of."

14 So that sentence would read, "After the
15 Red River Valley plan was rejected in 1969, the
16 waste rock generated between 1970 and 1984 was
17 deposited on the nine rock piles statewide and
18 accounted for 70 percent of the total waste rock
19 placed at the site."

20 MS. CRISHAM PELLEGRINI: Thank you,
21 Dr. Haddad.

22 Your Honor, we would move to admit
23 Dr. Haddad's written direct testimony.

24 THE COURT: Without objection.

25 MR. AUGUSTINI: No objection, Your Honor.

1 THE COURT: Thank you. It will be
2 admitted.

3 (Dr. Robert Haddad's direct testimony was
4 prefiled and admitted.)

5 THE COURT: You may cross-examine.

6 MR. AUGUSTINI: Your Honor, a brief note.
7 On the technology, we hope it is set up properly and
8 it will show on the Court's screens and my screen
9 and the witness' screen. Unfortunately, the screen
10 at both counsel tables don't seem to pick up the
11 exhibits. So if we have to, if there is a question
12 about what I am referring to, counsel can interject,
13 but we also have hard copies of the exhibits for
14 counsel and the witness.

15 THE COURT: Very good.

16 MR. AUGUSTINI: We are happy to be here.
17 Good morning, Your Honor.

18 CROSS-EXAMINATION

19 BY MR. AUGUSTINI:

20 **Q. Good morning, Dr. Haddad.**

21 **A. Good morning.**

22 **Q. Just a few questions on the site history**
23 **to recap. Molycorp operated the Questa Mine from**
24 **the 1920s through 1977, correct?**

25 **A. I believe they operated it later than**

1 that.

2 **Q. Sure.**

3 **Just in terms of the corporate entity, it**
4 **was Molycorp in the early years, right?**

5 A. Oh, yes, that is correct.

6 **Q. And then UNOCAL acquired Molycorp in 1977,**
7 **right?**

8 A. I believe so.

9 **Q. Shortly after the UNOCAL acquisition in**
10 **1977, there was a big land slide in the open pit,**
11 **correct?**

12 MS. CRISHAM PELLEGRINI: Objection,
13 Your Honor. This was not part of Dr. Haddad's, the
14 two opinions that Dr. Haddad offered in this case.

15 THE COURT: Overruled.

16 You may answer.

17 **Q (By Mr. Augustini) Do you recall the land**
18 **slide, sir, in 1977 or not?**

19 A. No, I don't, I'm sorry.

20 **Q. Okay. In any event, after the UNOCAL**
21 **acquisition, the company transitioned from the open**
22 **pit mine to the new underground mine; is that**
23 **correct?**

24 A. I think it was in progress of doing that,
25 yes.

1 **Q. Do you recall UNOCAL began producing from**
2 **the new underground mine around 1983?**

3 A. I don't recall.

4 **Q. At the time in 1983 UNOCAL owned all the**
5 **land at the Questa Mine; is that correct?**

6 A. I believe UNOCAL owned, yes, all the land
7 or much of it.

8 **Q. And you began working for UNOCAL in 1988;**
9 **is that right?**

10 A. 1990, I believe. I don't think -- I
11 looked at my graduate work, and my postdoc work
12 ended '89.

13 **Q. I think, according to your Exponent**
14 **profile, you list 1988. Is that, does that need to**
15 **be updated?**

16 A. Let me just check. Do you have Page 2 of
17 this exhibit? If you had the report, that would
18 have it.

19 I have it right here. Yeah, I think I
20 started in 1990 through 1995, according to my CV.

21 **Q. Okay.**

22 A. Oh, I'm sorry, you are correct, 1988.

23 **Q. All right. No big deal.**

24 A. My apologies.

25 **Q. We are going back in time. I just wanted**

1 to be sure on the dates there.

2 In any event in 1992, I believe, according
3 to your CV, you joined UNOCAL's environmental
4 remediation group, right?

5 A. Correct.

6 Q. And the remediation group was involved
7 with UNOCAL's contaminated sites, right?

8 A. They were.

9 Q. And in the early 1990s the Questa Mine was
10 one of the biggest contaminated sites in UNOCAL
11 under OSHA, right?

12 A. I don't know if it was the biggest. It
13 wasn't one that I actually worked on while I was at
14 UNOCAL.

15 Q. You heard about the Questa Mine when you
16 were with the remediation group, correct?

17 A. Yeah, yeah.

18 Q. You knew it was a site that was being
19 managed, correct?

20 A. Well, I knew it was a site.

21 Q. Okay.

22 A. Yeah.

23 Q. And you mentioned you remained with UNOCAL
24 through 1995, right?

25 A. I think so, yes.

1 MR. AUGUSTINI: Mr. Woolner, if you could
2 pull up United States Demonstrative 2, please.

3 Q. (By Mr. Augustini) Did that make it onto
4 your screen, sir?

5 A. Yes, sir, it did.

6 Q. This depicts the Questa Mine, correct?

7 A. It certainly looks like it does, yes.

8 Q. And the open pit area generally is circled
9 in orange in the middle there?

10 A. Yes, yes.

11 Q. And the piles of waste rock that we are
12 talking about in this case are labeled in blue on
13 the demonstrative, right?

14 A. I assume you are in the correct place, I
15 didn't develop this.

16 Q. You recognize the names that are shown
17 there?

18 A. I do.

19 Q. And all of these waste piles were in place
20 when you were working for UNOCAL through 1995,
21 correct?

22 A. Yes.

23 Q. And in 2018 you visited the Questa Mine in
24 person, right?

25 A. I did.

1 **Q. And is this generally how the piles**
2 **appeared when you were at the site in 2018?**

3 A. That is a tough question. Generally, you
4 know, when you are looking at it from a very
5 different perspective.

6 **Q. Certainly, very, you saw the very large**
7 **waste piles were in place in the gray color,**
8 **et cetera?**

9 A. Yes.

10 MR. AUGUSTINI: Mr. Woolner, would you
11 pull up USX477, please.

12 **Q. (By Mr. Augustini) Dr. Haddad, this is a**
13 **June 13, 1991 memorandum written by David Shoemaker**
14 **at UNOCAL, correct?**

15 A. Yes.

16 **Q. You cited USX477 as a source for your**
17 **opinions, correct?**

18 A. If you tell me I did, Counselor. I would
19 have to go back and look right now.

20 **Q. We will go through it a little bit.**

21 A. Sure.

22 **Q. If you need a chance to review any of it,**
23 **just let me know. I don't need to speed through it.**

24 A. Sure, thank you.

25 **Q. Mr. Shoemaker was the general manager of**

1 **the Questa Mine, correct?**

2 A. I know he was the general manager at one
3 time.

4 Q. And the memo dealt with process residues
5 and waste, right?

6 A. That is the -- that is what the memo says,
7 yes.

8 Q. And the first sentence states that, "The
9 Molycorp Questa Mine has the following waste
10 materials which are entirely contained within
11 Molycorp fee lands."

12 Do you see that?

13 A. Yes.

14 Q. And then if we go to the next page, I
15 believe --

16 MR. AUGUSTINI: Actually, back, I'm sorry,
17 Mr. Woolner, back to the first page.

18 Q. (By Mr. Augustini) Under the first
19 paragraph Mr. Shoemaker noted, according to his
20 estimate, there were about 327 million tons of waste
21 rock present at the mine as of that time, correct?

22 A. Yeah, I think I would probably say 328,
23 but that is correct.

24 Q. And that is generally consistent with the
25 opinions that you are thinking that you formed in

1 **this case, correct?**

2 A. That is correct.

3 **Q. Your opinion is that about**
4 **313 million tons of waste rock were generated from**
5 **the open pit, correct?**

6 A. They were, yes, generated and placed on
7 the waste piles, correct.

8 **Q. UNOCAL, as we saw in the demonstrative,**
9 **did not cover, regrade and revegetate the waste**
10 **piles during its ownership, correct?**

11 A. Well, I think they did at some points. I
12 know that during the years that I was working on the
13 Natural Resource Damage assessment there that they
14 had test plots where that was being done.

15 **Q. So other than test plots --**

16 A. Not to my knowledge.

17 **Q. -- there's been no clean cover placed over**
18 **the waste piles to date, correct?**

19 A. Well, as of 2018 when I was last there,
20 yes.

21 **Q. Now, Dr. Haddad, you did mention just now**
22 **in your direct testimony your work on the Natural**
23 **Resource Damages issues or NRDs is the abbreviation,**
24 **correct?**

25 A. Yes, that is correct.

1 Q. And for the past 30 years, NRD issues have
2 been a focus of your work, correct?

3 A. Yes.

4 Q. With regard to Questa, the State of
5 New Mexico and the Federal Government are the
6 natural resource trustees for the areas that are
7 impacted by the mine, correct?

8 A. Correct.

9 Q. And before this lawsuit UNOCAL retained
10 you to represent the company in negotiations with
11 the Government, correct?

12 A. Well, they retained me to conduct and lead
13 the technical parts of the assessment of the Natural
14 Resource Damage process.

15 Q. In terms of the Natural Resource Damage
16 assessment you are not offering any opinions about
17 that here, correct?

18 A. No, I am not.

19 Q. And we don't need to go into the
20 regulatory details, but you did mention in your
21 direct testimony that the remedial investigation and
22 feasibility study process are different than the
23 Natural Resource Damages assessment process,
24 correct?

25 A. That is correct.

1 Q. And UNOCAL hired other consultants to
2 perform the remedial investigation, correct?

3 A. That is right.

4 Q. Now, with respect to your task in this
5 litigation, Dr. Haddad, you were asked to perform a
6 historical reconstruction of Chevron's waste piles
7 over time; is that right?

8 A. That is correct.

9 Q. And you are not a mining engineer,
10 correct?

11 A. I am not.

12 Q. You don't claim to be an expert in the
13 Mining Law of 1872, right?

14 A. I do not.

15 Q. Before this case you had never performed a
16 historical reconstruction of this type, correct?

17 A. Well, no, that is not absolutely correct.
18 I mean, I had never calculated this large waste
19 rock, but I had performed historical reconstructions
20 at some of the other mines. The New Almaden mine in
21 the San Francisco Bay area is one of them.

22 Q. Which mine is that, please?

23 A. New Almaden. Again, as part of the
24 Natural Resource Damage process.

25 Q. And that involved determining whether

1 **waste rock was placed on patented or unpatented land**
2 **over time?**

3 A. It wasn't so much patented and unpatented,
4 it was just where the waste rock was placed relative
5 to some of the natural resources.

6 Q. **Currently you are with a firm called**
7 **Exponent, correct?**

8 A. Yes.

9 Q. **And your profile highlights your**
10 **experience, particularly in oil and pipeline spills,**
11 **correct?**

12 A. That is an area that I have worked in,
13 yes.

14 Q. **So you have listed former projects for**
15 **UNOCAL involving oil spills, Guadalupe, California,**
16 **spill, correct?**

17 A. Yes.

18 Q. **And the Avila Beach UNOCAL spill, right?**

19 A. Yes.

20 Q. **You worked for Chevron in the pipeline**
21 **spill in Pearl Harbor, Hawaii, according to your CV,**
22 **correct?**

23 A. I'm sorry, I said yes.

24 Q. **Sorry, thank you.**

25 **And at the national -- you were with the**

1 **Government at the National Oceanic Atmospheric**
2 **Administration or NOAA. You worked extensively on**
3 **the Deep Water Horizon spill, right?**

4 A. Yeah, for six years of my tenure there.

5 Q. Until today my understanding is you have
6 **not testified in a CERCLA case involving a**
7 **contaminated mine before, correct?**

8 A. That is correct.

9 Q. Dr. Haddad, I believe you agree Chevron
10 **dumped all the waste rock at the mine; is that**
11 **right?**

12 A. That is correct.

13 Q. Chevron possessed the waste rock at all
14 **times, right?**

15 A. I assume so.

16 Q. Chevron owned the waste rock that was
17 **dumped at the Questa Mine, correct?**

18 A. I'm sorry, that is kind of beyond my kin
19 to know what the law says about who owns it.

20 Q. So you are not familiar with the ruling in
21 **this case from the Tenth Circuit on that issue?**

22 A. Well, I have read it awhile ago, but I
23 haven't read it recently, I'm sorry.

24 Q. Fair enough.

25 But the waste rock is the biggest source

1 of contamination of the mine, correct?

2 A. Yes, I would agree with that.

3 Q. And since it wasn't a focus, I understand
4 it was a legal issue, but the ownership of the waste
5 itself was not a focus of your analysis, correct?

6 MS. CRISHAM PELLEGRINI: Objection,
7 Your Honor. This is calling for a legal conclusion
8 and Dr. Haddad has already said he does not know or
9 have the expertise to talk about ownership.

10 THE COURT: Overruled.

11 You may answer the question.

12 A. Would you please ask it again.

13 Q (By Mr. Augustini) I know you're not a
14 lawyer and I am not asking for your legal opinion.

15 A. Thank you.

16 Q. Trust me on that. But just verifying that
17 the ownership of the waste rock was not a factor in
18 your analysis, correct?

19 A. That is correct.

20 Q. You reviewed the mining records and logs
21 extensively in connection with your work, correct?

22 A. Yes.

23 Q. And so you're aware that Chevron operated
24 all the trucks and equipment that was used to work
25 the pit, right?

1 A. Yeah.

2 Q. And Chevron's ownership and operation of
3 all the mining equipment also is not a factor in
4 your analysis, correct?

5 A. That is correct.

6 Q. Okay.

7 MR. AUGUSTINI: Mr. Woolner, if you could
8 pull up CX463, please.

9 Q. (By Mr. Augustini) Dr. Haddad, you
10 prepared this table and cited it in your testimony,
11 correct?

12 A. Yes, I did.

13 Q. And the purpose of this table was to show
14 when Chevron acquired title to the land of the
15 Questa Mine, right?

16 A. To show when the patents, the days of the
17 patents, if that is the same thing.

18 Q. Okay. Yes.

19 A. Well, let me just -- let me just clarify.
20 The year and then the acreage of those patents as
21 well.

22 Q. Sure.

23 So, in general terms, this is the
24 acquisition history of the land, right?

25 A. It is just the patent history of the land,

1 exactly.

2 Q. Very good.

3 Now, Chevron could have dumped the waste
4 rock at the Questa Mine without taking ownership of
5 the land, correct?

6 A. I am sorry, can you ask that a slightly
7 different way for me?

8 Q. Sure.

9 Are you aware that Chevron had mining
10 claims with respect to the Questa Mine?

11 A. I am, yes.

12 Q. And do you have an understanding about
13 whether the mining claims allowed Chevron to use the
14 land for mining purposes?

15 A. Very broadly I have that understanding.

16 Q. And certainly there is no prohibition if
17 you have a mining claim to use the land for waste
18 disposal to your understanding, or if you know?

19 A. I don't know. I know that that was a
20 contention at some point in this case.

21 Q. Okay. Chevron voluntarily applied for all
22 of the patents that are listed on your table,
23 correct?

24 A. I assume so, yes.

25 Q. And you mentioned just briefly, sir, let

1 **me see the year column, yeah.**

2 A. That is all right, you can just say it, I
3 can follow.

4 **Q. I know there is a lot of numbers for the**
5 **Court to follow here, but the year column, you**
6 **mentioned, is the date that the patent issued,**
7 **correct?**

8 A. That is my understanding from the sources,
9 which is Mr. Fredley.

10 **Q. So it is not the date that Chevron applied**
11 **for the patents?**

12 A. No, my understanding is that is the date
13 the patents were granted.

14 **Q. You are aware that the process of**
15 **acquiring patents took several years in some**
16 **instances, correct?**

17 A. I am not aware of that. It is not
18 something I have ever dealt with.

19 **Q. In addition to all of the parcels that you**
20 **have listed in CX463, Chevron also owned the land**
21 **where it disposed of the tailings, correct?**

22 A. Are we talking about the tailings
23 facility, Counsel, beyond Questa Village?

24 **Q. Yes, sir.**

25 A. At what point are you? Do you have a time

1 frame that you want to hone that in?

2 Q. Sure, no problem.

3 If you need clarification of any of my
4 questions, I may ask some bad questions, feel free.

5 A. I am sure I will give some bad answers.

6 Q. Chevron owned the tailings facility since
7 the mid-1960s, correct?

8 A. Parts of the tailings facilities.

9 Q. Okay. And the question was simply to
10 confirm that CX463 does not include any of the
11 tailings land, right?

12 A. That is accurate, correct.

13 Q. And in terms of the size, the tailings
14 facility covers about a thousand acres; is that
15 right?

16 A. As currently configured, that is my
17 understanding, a thousand, a thousand 50, something
18 like that.

19 Q. So this is maybe stating the obvious, but
20 the patented and unpatented fraction columns you
21 provide on CX463 don't count the thousand acres over
22 at the tailings facility, right?

23 A. That is correct. As the title of the
24 table points to, it is the Questa Mine site.

25 Q. Chevron also owned a mill within the mine

1 **site boundary, correct?**

2 A. Correct.

3 **Q. That was near the Red River in the**
4 **southeastern corner of the mine cite, generally?**

5 A. That is correct.

6 **Q. And the mill is located on land that**
7 **Chevron owned, correct?**

8 A. That is my understanding.

9 **Q. Are you aware that Chevron acquired that**
10 **land from a private party, not the United States?**

11 A. No, I am not.

12 **Q. And that is not reflected, that parcel is**
13 **not reflected in CX463, correct?**

14 A. I don't know that for a fact. I would
15 have to go back and take a look.

16 **Q. If we can look across at the entries you**
17 **have on CX463 for 1974?**

18 A. Right.

19 **Q. In the patented fraction column we see**
20 **92.3 percent, correct?**

21 A. So you are talking about the second parcel
22 line and the accumulative, basically, patented
23 fraction?

24 **Q. Yes, sir.**

25 A. 92.3 percent, yes.

1 **Q. And so what this shows is that as of 1974**
2 **Chevron owned 92.3 percent of the total acreage at**
3 **the mine, correct?**

4 A. That is correct.

5 THE COURT: Excuse me. Total acreage of
6 what?

7 MR. AUGUSTINI: Total acreage at the
8 Questa Mine.

9 THE COURT: Is that Parcel 1 and Parcel 2
10 or is it just Parcel 2?

11 MR. AUGUSTINI: Sir, that would be the --
12 I'm sorry, Your Honor, I don't mean to jump on your
13 question, but I believe that is after.

14 **Q. (By Mr. Augustini) The land exchange**
15 **included both Parcel 1 and Parcel 2, correct.**

16 A. Yes.

17 **Q. So you just, if you look at them, you can**
18 **look at them both together since it happened at the**
19 **same time, but basically after the land exchange in**
20 **1974 Chevron owned 92.3 percent of the total acreage**
21 **at the mine?**

22 A. Yes. The way that translates in my table
23 is that at that time after the second parcel was
24 transferred over, the fraction of land on the mine
25 site that was patented, was 92.3 percent.

1 THE COURT: Does that have anything to do
2 with the 36.6 percent above it?

3 THE WITNESS: It is cumulative,
4 Your Honor. So it is adding of all of the acres
5 that are above it and then normalizing that fraction
6 or that number, that amount of acres, to the total
7 acres at the end of the time frame, which was around
8 1984.

9 THE COURT: Thank you.

10 Q (By Mr. Augustini) Okay. I think you did
11 explain this in your direct testimony.

12 As of the land exchange in January of
13 1974, if we look at the last few entries on your
14 table, Chevron only acquired a few additional
15 smaller parcels throughout the duration, correct?

16 A. That's correct.

17 Q. And between 1983, which is the last entry
18 on the table, and 2014 where you see the total
19 acreage column, we see on the table that 1983 was
20 the last acquisition through patent, correct?

21 A. That is correct.

22 Q. And between 1983 and 2014 Chevron was
23 continuing to conduct mining at the site, right?

24 A. Yes. My understanding it was mostly
25 underground mining at that point.

1 Q. Sure.

2 So during the last 31 years of mining
3 operations, according to your table, Chevron owned
4 all the land at the mine, right?

5 A. Yeah, all the land was patented to
6 Chevron.

7 Q. Now you explained this briefly in response
8 to the Court's question. The number at the bottom
9 of the acreage column is 3,766.7 acres, correct?

10 A. Yes.

11 Q. And that, in your view, is the total
12 acreage at the Questa main, right?

13 A. That is the total patented acreage at the
14 Questa Mine through 1983.

15 Q. Okay. That is the number, the 3,766, that
16 you used as the denominator in all your calculations
17 in the patented and unpatented fraction columns,
18 correct?

19 A. Uh-huh.

20 Q. But this table does not reflect the actual
21 usage of the land, correct?

22 A. Can you be more specific?

23 Q. Sure.

24 For example, you're not suggesting that
25 all 3,766 acres were used for the open pit mine,

1 **right?**

2 A. No. All I am stating here is that that is
3 the cumulative acreage of all of the patents from
4 1992 through 1983.

5 Q. **Right. So do you agree only a small**
6 **percentage of the total land surface across the mine**
7 **was impacted by the open pit operations, right?**

8 A. I can't remember the exact percentage. We
9 get into that, I think, in other parts of the report
10 in terms of the amount of acreage covered by the
11 waste pit sites, if that is what you are getting at.

12 Q. **Yeah. The waste piles cover a few hundred**
13 **acres of land at the site, correct?**

14 A. You know, I don't know about it in acres,
15 I just know about it en masse.

16 Q. **But we certainly know the waste piles**
17 **cover nowhere near 3700 acres, yes?**

18 A. Yes.

19 Q. **Now, with respect to the first few entries**
20 **on CX463, Dr. Haddad, 1922 through 1930, do you see**
21 **those?**

22 A. I do, yes, sir, uh-huh.

23 Q. **And if we read across the line for year**
24 **1930, we see that the patented land Chevron owned as**
25 **of that date was 481.7 acres, correct?**

1 A. That's correct.

2 **Q. And you pointed out in the patented**
3 **fraction column, that was 12.8 percent of the total**
4 **mine area that Chevron eventually acquired, correct?**

5 A. Of the total patented area.

6 **Q. But the acres, those 481.7 acres, were**
7 **extremely important to the open pit mine operation,**
8 **correct?**

9 A. I am just trying to find out where we were
10 again. 481.7 acres, is that what you meant?

11 **Q. Yes. The land, I'm sorry if I misspoke.**
12 **The land Chevron had as of 1930 was**
13 **extremely important to the open pit mine operation**
14 **later, correct?**

15 A. I don't know. It is not something I
16 opined on.

17 **Q. You don't know that the open pit was**
18 **located within those patented areas as of 1930?**

19 A. Not as we sit here. I would have to go
20 back and take a look at the patent map. I am aware
21 that by the time they started the open pit that they
22 owned patents in all of that area. I don't know
23 whether they acquired them all by 1930.

24 MR. AUGUSTINI: Mr. Woolner, can we try to
25 pull up CX453.

1 Q. **(By Mr. Augustini) This is an exhibit**
2 **that you prepared, Dr. Haddad, correct?**

3 A. Yes, sir, it is.

4 MR. AUGUSTINI: Mr. Woolner, can we please
5 try to show the shading for the 1920s and 1930
6 patent, please.

7 Q. **(By Mr. Augustini) Is the shading**
8 **appearing on your screen, sir?**

9 A. Yes, it is.

10 Q. Do you see that the shading generally
11 covers the open pit area of the mine?

12 A. Yes, I do.

13 Q. And you agree Chevron's land, the open
14 pit, was the source of 100 percent of the waste rock
15 that requires remediation, correct?

16 A. I assume so. There might be small
17 percentages from other, you know, old mining
18 operations things like that but in general, yes.

19 MR. AUGUSTINI: Pull that down, sir.

20 Q. **(By Mr. Augustini) Beyond the open pit,**
21 **you mentioned this briefly, but you do understand**
22 **Chevron had mining claims covering the mine site**
23 **area, right?**

24 A. I do, yes.

25 MR. AUGUSTINI: Just to illustrate that

1 briefly, Mr. Woolner, if you would please pull up
2 CX153.

3 **Q. (By Mr. Augustini) Dr. Haddad, can you**
4 **recognize, it might be a little hard to read at the**
5 **bottom, but there is a reference to the Questa**
6 **property and then the Molycorp property, there is a**
7 **label in the center of the map?**

8 A. Well, it is quite hard to read the map.
9 So is there a question here, I'm sorry.

10 **Q. Do you recognize this as the general shape**
11 **of the Questa Mine boundaries indicated?**

12 A. Yes. The outer red line, I guess I would
13 say where it goes to the blue sometimes.

14 **Q. And as we can see the rectangles, do you**
15 **know whether those are the mining claim boundaries?**

16 A. I am assuming that those are the claims.

17 **Q. Okay.**

18 A. That either unpatented or patented.

19 **Q. By staking the claims, Chevron had use of**
20 **the land at the mine, right?**

21 A. Again --

22 **Q. Not to ask about the legalities, but you**
23 **know that they used the mine and that they had**
24 **claims, correct?**

25 A. I know that they used the mine and that

1 they had claims, correct.

2 **Q. And Mr. Dewey testified that in terms of**
3 **the mining, Chevron directed, managed and controlled**
4 **the mining operations, correct?**

5 A. I wasn't here for Mr. Dewey's testimony.

6 **Q. You didn't review the transcript?**

7 A. No, I didn't review the transcript.

8 **Q. You certainly reviewed the mining records**
9 **and logs and so forth, correct?**

10 A. Yes.

11 **Q. And --**

12 A. The waste mining records.

13 **Q. Yeah. And those were all Molycorp**
14 **records?**

15 A. They were all Molycorp records.

16 MR. AUGUSTINI: Now, Mr. Woolner, please
17 pull up USX219.

18 **Q. (By Mr. Augustini) Dr. Haddad, this may**
19 **be one you want to take a little more time to read**
20 **through, but I do have some simple questions and if**
21 **you want to make more time at any point, feel free.**

22 But just to start with the title of the
23 document, do you see at the top Application for
24 United States Patent?

25 A. Yes, I do.

1 Q. And then just below that there is a
2 reference application of Molybdenum Corporation for
3 patent, and then it lists a number of mining claims,
4 correct?

5 A. It appears to, yes.

6 Q. Do you understand this is one of the
7 applications through which Chevron sought to acquire
8 land at the mine?

9 A. I would assume that is the case. It looks
10 official. It looks like it was received by the
11 Bureau of Land Management and it has Molycorp's
12 signature and something from the State of
13 New Mexico, so I would assume that this is an
14 official application.

15 Q. If we look down in the middle of the first
16 page under USX219, Molycorp states, "Applicant for
17 patent herein has become the owner and is in actual,
18 quiet and undisturbed possession of each of the
19 above-mentioned load mining claims and mill sites,"
20 and it goes on.

21 Do you see that?

22 A. Let me find it, please. I see that, yes.

23 Q. And then we will just move forward to the
24 eighth page as an example.

25 A. I guess I would also say I am not quite

1 sure I understand what that means.

2 **Q. There is no legal opinions offered here.**

3 A. They are applying for patents here, right?

4 That is what they are doing, right?

5 **Q. Yes.**

6 A. Page 8.

7 MR. AUGUSTINI: In the middle,
8 Mr. Woolner, the second paragraph, the last
9 sentence.

10 **Q. (By Mr. Augustini) "The applicant for**
11 **patent herein and thereupon the said corporation**
12 **entered into, took possession and control and has**
13 **since possessed, controlled, enjoyed and occupied,"**
14 **goes on, "the claims."**

15 Do you see that reference, Dr. Haddad?

16 A. I see it, yes.

17 **Q. And you don't have any reason in your**
18 **capacity to question the representations that the**
19 **company made in the patent application, correct?**

20 A. No, no, this is nothing to do with any of
21 my opinions.

22 **Q. It does go to the control of the land**
23 **before the patents issued, right?**

24 A. Right. But my opinions are just simply
25 what was put on patented and what was put on

1 unpatented and leave it to others to discuss the
2 legalities.

3 Q. Understood.

4 We will move forward just to the last
5 page. I think you might have mentioned this but
6 just to confirm.

7 The signature page. The Notary says,
8 "Subscribed and sworn to before me this 22nd day of
9 January, 1968."

10 Do you see that?

11 A. I do, yes.

12 Q. Do you happen to know when the patent
13 issued pursuant to this application?

14 A. I will have to go back and take a look.

15 Q. Well, it is not a guessing game, I guess.
16 There was a patent that was issued in 1970s, right?

17 A. Yes, there was. I mean, are you saying to
18 me that this is the patent that was issued in 1970?

19 Q. Yeah, I am representing that but I can
20 pull up the patent as well, too, if you would like.

21 A. I am fine with that. I know that there
22 was a patent that was issued in 1970.

23 Q. Right.

24 MR. AUGUSTINI: I guess we will do that.
25 The patent isn't in the record, just briefly,

1 USX434.

2 Q. (By Mr. Augustini) Dr. Haddad, you are
3 welcome to compare back and forth, but do you see
4 the bullet, the whereas clause at the top, there is
5 a number of mining claims listed?

6 A. Right.

7 MR. HOPSON: If we scroll to the next page
8 of the patent, Mr. Woolner.

9 A. Just a second, please.

10 Q. (By Mr. Augustini) Would you like to
11 compare them?

12 A. I am just quickly looking at them, real
13 quickly.

14 Okay, thank you.

15 MR. AUGUSTINI: If you would scroll to the
16 next page for the date, Mr. Woolner, please.

17 Q. (By Mr. Augustini) Do you see there,
18 "Given under my hand, May 1970"?

19 A. Correct. 3700048 is the patent.

20 MR. AUGUSTINI: Your Honor, I move to
21 admit USX434.

22 THE COURT: Any objection?

23 MS. CRISHAM PELLEGRINI: No objection,
24 Your Honor.

25 THE COURT: Without objection.

1 (Exhibit admitted, USX434.)

2 Q (By Mr. Augustini) Based on your review,
3 while the patent was pending, Chevron dumped the
4 waste in the same manner, correct, as it also always
5 did?

6 A. Well, did Chevron continue to --

7 THE COURT: If you know.

8 A. I mean, my understanding is Chevron
9 continued to dump based on where they needed to
10 dump.

11 Q (By Mr. Augustini) Right. And the dumping
12 was occurring while the patent application was
13 pending, correct?

14 A. I don't know that off the top of my head.

15 Q. We will get to that when we pull up the
16 table where you do address it.

17 A. Okay.

18 MR. AUGUSTINI: Now, let's do that, CX465.

19 A. Okay.

20 Q. (By Mr. Augustini) And, Dr. Haddad, this
21 is a table that you prepared and cited in your
22 testimony, correct?

23 A. That is correct.

24 Q. And we certainly do know the amount of
25 waste increased from January 1968 up through the

1 **later years as Chevron continued to mine, correct?**

2 A. That's correct.

3 **Q. And in this table, this summarizes your**
4 **historical reconstruction on the piles; is that**
5 **right?**

6 A. That is correct.

7 **Q. And what you do is present a snapshot of**
8 **three different dates?**

9 A. Correct.

10 MR. AUGUSTINI: And so, Your Honor, if we
11 read across.

12 **Q. (By Mr. Augustini) The three dates are**
13 **December 31, 1969, the three columns on the left,**
14 **correct?**

15 A. That's correct. Well, December 1969,
16 correct.

17 **Q. I think you did it on a year-end basis for**
18 **convenience?**

19 A. That was it. Just so we are all on the
20 same page, these were designed to have an analysis
21 prior to the 1970 patent and then prior to the 1974
22 land exchange. And then the third section is
23 basically the end of the waste rock deposition.

24 **Q. Right. I think the way you described it**
25 **in your testimony is you picked snapshots right**

1 **before major changes in the landownership, right?**

2 A. Exactly.

3 Q. Now, we have seen this with the 1970
4 **patent, but before your first snapshot in December**
5 **'69, Chevron was in the -- already in the process of**
6 **acquiring the land at the mine, right?**

7 A. According to the patent application we
8 just saw, if that is what you mean.

9 Q. Yes.

10 A. Yes.

11 MR. AUGUSTINI: If we pull up CX212,
12 please.

13 Q. **(By Mr. Augustini) Dr. Haddad, this**
14 **letter is dated February 20, 1969, right?**

15 A. Yes, it is.

16 Q. And if we just look at the first paragraph
17 **we see Chevron's counsel writing that he has been**
18 **authorized by the manager of Molycorp to make**
19 **application for the exchange of lands designated as**
20 **Parcel 1 and Parcel 2, correct?**

21 A. That is what it says, yes.

22 Q. So this kicks off the acquisition of land
23 **in the big land exchange, right?**

24 A. Well, of '74, yes, it does.

25 Q. That is underway in February of '69, which

1 **again, is before the first snapshot that you**
2 **provided in your analysis?**

3 A. Right. This follows on the earlier '69
4 meeting between the Forest Service and Molycorp
5 where they had originally proposed the Red River
6 Valley plan and it was suggested that they try a
7 land exchange instead.

8 Q. Right. I am not asking about the Red
9 River Valley plan at all today.

10 But you certainly agree that with respect
11 to the biggest chunk of land at the mine, some
12 2300 acres, Chevron is in the process of acquiring
13 it ten months before the first snapshot that you
14 provide, right?

15 A. Right.

16 Q. There is no doubt that Chevron planned to
17 continue mining while the land exchange was underway
18 and being consummated, correct?

19 A. I think from all of the literature that I
20 reviewed, there was an understanding that this was
21 going to happen quickly and they needed to have that
22 space to put waste rock.

23 Q. Sure.

24 So while it took, I guess, almost
25 five years, there is no doubt that Chevron wanted to

1 **acquire title to the land at the mine where it was**
2 **dumping waste rock, correct?**

3 A. Well, they were seeking a land exchange
4 for that land and the Government was interested in
5 providing a land exchange for dumping the waste rock
6 there.

7 Q. **Sure.**

8 **If we look back at your table, CX465, if**
9 **we review the second snapshot, which is**
10 **December 1973 in the center, correct?**

11 A. Yes.

12 Q. **And we follow down the total tons column**
13 **to the total number, we see 239?**

14 A. That is correct, 239.6 million tons.

15 Q. **Right. That is, according to your view,**
16 **the total amount of mass that had been disposed from**
17 **the open pit as of the end of 1973, right?**

18 A. That is right, waste rock, correct.

19 Q. **And we know that about three weeks later**
20 **the patent for the land exchange issued in January**
21 **of 1974, correct?**

22 A. We do, and that is why I looked at that
23 snapshot.

24 Q. **Right.**

25 **If we took a snapshot three weeks later in**

1 **January 1974, the conclusion would be that**
2 **239 million tons of waste rock was located on**
3 **Chevron's land, right?**

4 A. Well, possibly it would be that that large
5 a mass was located on land that was either patented
6 or provided by the U.S. Government in the land
7 exchange.

8 Q. Well, I mean, we will get to your
9 categorization, but we know the land was patented in
10 January of 1974, 2300 acres, right?

11 A. Correct.

12 Q. And certainly if not 100 percent of the
13 waste rock that was in place as of January 1974 was
14 on that land or other land Chevron owned, right?

15 A. Sure.

16 Q. We know Chevron continued to own that land
17 as it continued to dump waste over the next
18 ten years of open pit mine operations, right?

19 A. Yes.

20 MR. AUGUSTINI: Mr. Woolner, if you would
21 look down at the Footnotes C and D.

22 Q. **(By Mr. Augustini) Dr. Haddad, I think**
23 **you used the same description in several of them,**
24 **but looking at Footnote C to Table CX465, you note**
25 **that the touchstone in your analysis was the date**

1 that waste rock was originally placed on the land;
2 is that correct?

3 A. I'm sorry, Counsel, I don't understand
4 what you are asking me, touchstone.

5 Q. Touchstone may have confused you, I'm
6 sorry. I'll ask a simpler question.

7 Your analysis focused only on when the
8 waste rock was originally placed on the ground,
9 correct?

10 A. Well, cumulatively, if that is what you
11 mean. So through 1969, that is the cumulative
12 amount of waste rock placed in those rock piles in
13 the first column.

14 Q. Sure.

15 And to try to be more clear in my
16 question.

17 A. I'm sorry.

18 Q. No, that is my problem more than yours,
19 I'm sure.

20 To explain the original placement concept
21 that you used is what I am trying to do. And to
22 give an example, if Chevron owns land on Day 1 and
23 waste rock is placed there, that is the original
24 placement, correct?

25 A. Okay.

1 **Q. And then on Day 2 if the patent is issued**
2 **and it becomes Chevron-owned land, you never**
3 **recategorized the waste, based on the change in**
4 **ownership, right?**

5 A. Well, I am not quite sure I understand
6 you. In 1969 there wasn't another patent from 1930
7 through 1970. So the 1969 is representative of the
8 cumulative amount of mass that was placed in any of
9 those rock piles through that date. And then
10 whether or not as of that date, 1969, December of
11 '69 whether they were placed on patented or
12 unpatented land at that time.

13 **Q. Sure.**

14 **I am still not getting at my question.**
15 **When you categorize something as being placed on**
16 **unpatented land, if Chevron later acquires that**
17 **land, the waste stays in the unpatented category for**
18 **the duration?**

19 A. No, that is not correct. If in the next
20 time frame the patents cover more of the waste pile,
21 then we look at that fraction of area of the
22 patented waste.

23 **Q. Only the increment. You don't go back to**
24 **the original placement. Let's take a look at the**
25 **table and see if that illuminates this concept**

1 **better than I am doing.**

2 **If we look at Goat Hill North and South,**
3 **for example, if we start with December 1969, we see**
4 **in the unpatented tons column 8.9 million tons of**
5 **waste rock for Goat Hill North and South, correct?**

6 A. 8.9, yes.

7 THE COURT: Where is that, 8.9?

8 MR. AUGUSTINI: December '69 is the title
9 at the top, Your Honor, and then there is three
10 columns below it.

11 THE COURT: 8.9.

12 MR. AUGUSTINI: Yes.

13 Q. **(By Mr. Augustini) That is where you are**
14 **saying, Dr. Haddad, that 8.9 million tons of the**
15 **waste were originally placed on unpatented land in**
16 **the Goat Hill North and South columns, right?**

17 A. As of December of '69.

18 Q. **Do you recall that the 1970 patent covered**
19 **those two dumps?**

20 A. No, I don't, I'm sorry.

21 MR. AUGUSTINI: Maybe we can pull up
22 CX453. We can do the 1970 shading on this one.

23 Q. **(By Mr. Augustini) Can you make out the**
24 **patented area down through the center here?**

25 A. Yes.

1 **Q. That is the 1970 patented land, correct?**

2 A. Right.

3 **Q. Do you see the --**

4 A. Oh, I now understand your point. All
5 right. So your point is just simply that, so in
6 December of '73 the --

7 THE WITNESS: So, Your Honor, if we look
8 across the Goat Hill North and South line, we see
9 the first three are for December of 1969.

10 MR. AUGUSTINI: Pull up 465, please.

11 THE COURT: Okay.

12 THE WITNESS: All right. And then if we
13 go to the next three columns that is under December
14 of 1973 and what Counsel is pointing out is that in
15 1970 that area was patented.

16 And yet in my column it's still listed as
17 8.9 million unpatented tons. And the reason is, is
18 that this is an assessment of the total amount of
19 rock that was placed in that area originally on
20 unpatented. Okay? So I didn't go into 1970 and if
21 it was all patented then say, oh, now it's all on
22 patented land. I kept the original amount that was
23 originally placed on unpatented land. So that is
24 what that is and you go to Goat Hill North and South
25 is an interesting one in which most of the dumping

1 occurred very early in the history there.

2 Q. (By Mr. Augustini) Right. Thanks for
3 that explanation. That is what I was getting at.

4 A. I'm sorry I took so long.

5 Q. Not at all. I appreciate that. If we
6 read across we see that the original placement
7 concept was adhered to even through 1984. All of
8 that unpatented waste rock remains in the unpatented
9 category forever, right?

10 A. That is correct but it is designating the
11 original amount of waste rock that was originally
12 placed in an unpatented area. That is the point.

13 Q. And the same approach for all the other
14 waste piles, right?

15 A. Correct.

16 Q. So just to confirm, we have pointed out
17 several times, the land exchange occurred in
18 January 1974, right?

19 A. That is correct.

20 Q. If you look at the unpatented tons in the
21 middle column under December 1973, we see roughly
22 130 million tons there, right?

23 A. Correct.

24 Q. And so all of that waste remains in the
25 unpatented category even though three weeks later

1 **Chevron acquires essentially all the land on which**
2 **that waste rock sits, correct?**

3 A. That is right because it is designated.
4 It is designating the nature of the land when the
5 waste rock was deposited.

6 Q. **And so that does get counted against the**
7 **United States in the percentages you provide, right,**
8 **through the end of waste rock placement, correct?**

9 A. Well, I don't know that it counts for or
10 against the United States. What I know is that
11 it -- what I have tried to provide is the amount of
12 material that was placed originally, either on
13 unpatented land in the December '69 columns and in
14 the December '73 columns, or originally placed on
15 unpatented land and on the parcels that were traded
16 or exchanged in 1974 for waste rock disposal.

17 Q. **Okay. Right. I understand, sir, and just**
18 **to delve into that issue.**

19 **In the 1969 and 1973 snapshots, you**
20 **provide a comparison between the patented and the**
21 **unpatented waste mass, correct?**

22 A. In the 1969 and the 1973. That is what
23 you are saying?

24 Q. **Yes.**

25 A. Ask me that one more time, Counselor, I'm

1 sorry.

2 Q. In the first two snapshots you do adhere
3 to, you make a comparison between patented and
4 unpatented waste mass, right?

5 A. Right.

6 Q. And then in the 1984 end of waste rock
7 placement columns, the first one of the last three,
8 the title is Unpatented and Exchanged Land, correct?

9 A. Correct. That is correct.

10 Q. So we have moved away from the patented
11 versus unpatented comparison, correct?

12 A. Right. We have moved to a comparison of
13 land that I hold was provided by the U.S. Government
14 with their knowledge for waste rock disposal.

15 Q. But we do know, despite the label
16 unpatented and exchanged, that Chevron held patents
17 to all the acres in that category, correct, as of
18 1984?

19 A. Sure, as of 1984.

20 Q. So in reality when we look down at the
21 total in the unpatented and exchanged column
22 187 million tons of waste rock, correct? Yes?

23 A. Oh, yes, I'm sorry.

24 Q. That is all on Chevron's patented land as
25 of 1984, right?

1 A. As of 1984. But the point was that I
2 wasn't asking where it was in 1984, I was trying to
3 determine how much of that mass had been placed at
4 different times on patented and unpatented land.

5 So I didn't restart and say, oh, in this
6 time this was all patented, because the waste rock
7 had already been placed there and it was originally
8 placed on unpatented land. And the difference
9 between the 1984 and the 1973 or '69, is that the
10 parcels, the land exchange, were really exchanged to
11 accommodate Chevron's need to dump additional waste.
12 And so I factored those into that.

13 **Q. Right. No one should be confused that**
14 **Chevron owned land covering every bit of that**
15 **187 million tons of waste rock as of 1974, correct?**

16 A. As of the -- well, almost all of it. I
17 mean, I think there was a small amount that they got
18 later on, but, yes.

19 **Q. We are talking insignificant additional**
20 **parcels that were acquired, right?**

21 A. Right.

22 **Q. All right. And just to be clear, we are**
23 **not talking -- in the end of placement analysis, we**
24 **are not just talking about the waste rock that had**
25 **been sitting there for over a decade, you adhere to**

1 the same approach with respect to the additional
2 waste rock that Chevron was dumping on its land
3 between 1974 and 1984, right?

4 A. That is right. And, again, with the point
5 that I have made several times, that that land is
6 clearly stated in my report, exchanged land for the
7 purposes of waste disposal.

8 Q. So, original placement did not apply to
9 the additional waste, right, that is the point?

10 A. Between '74 and '84, right.

11 Q. Now I am not -- I just have a few more
12 questions, sir. I don't mean to put you through a
13 math exercise on the stand, but you may be able to
14 eyeball it from looking at your table.

15 By my count in doing the math from what
16 you provided, Chevron dumped 73 million tons of
17 waste rock on its land between December 1973 and
18 1984.

19 Does that look right to you?

20 Let me just try to show you where it comes
21 from.

22 A. Tell me where you got that from.

23 Q. We mentioned earlier your overall opinion
24 is that there was a total of about 313 or the number
25 here in the right-hand column is 312,826,904 tons,

1 **right?**

2 A. Yes.

3 **Q. That is the total waste mass from the open**
4 **pit over its entire operation, right?**

5 A. That is correct.

6 **Q. And then if we look at the total tons you**
7 **provide for December 1973, that is the 239,644,189,**
8 **right?**

9 A. So what you are asserting is that the
10 313 million minus the 239.6 million equals --

11 **Q. About 73 million?**

12 A. Okay.

13 **Q. Does that make sense?**

14 A. I haven't done the math, but I will agree
15 to your math.

16 **Q. Right. Is that the process by which you**
17 **would determine how much waste was disposed between**
18 **December 1973 and 1984?**

19 A. Right. That would have been the
20 additional mass.

21 **Q. I think we have covered it, but just to be**
22 **clear, you don't count that 73 million tons in the**
23 **patented category?**

24 A. Yes, we have covered this. I count those
25 73 million tons mostly in the exchange land

1 category.

2 Q. So do you agree if we add that
3 73 million tons that was dumped on the land that
4 Chevron owned at the time, we end up with
5 181 million tons of waste rock that was dumped on
6 Chevron-owned land at the time of disposal? Just to
7 walk you through that, I know it is not a math test.

8 THE COURT: Well, are you suggesting that
9 it was dumped in one fell swoop.

10 MR. AUGUSTINI: Over time, Your Honor,
11 just totals. And to explain how I get there not all
12 the math is shown on this, so I'm sorry it is a
13 little cumbersome to do it this way.

14 Q. (By Mr. Augustini) The 125,459,076 tons
15 that, on the right-hand column, that is the number
16 that you attribute to Chevron's patented land in the
17 end of placement analysis, correct.

18 A. Yes, it is.

19 Q. So if we added the 73 million tons that
20 actually was disposed on Chevron's patented land in
21 the last ten years of the open pit's operation, you
22 get something like 181 million tons, right?

23 A. Well, yeah, if your 73 or 74 is correct
24 and you added that to 125, which I assume is what
25 you are doing.

1 Q. Right. That is how it would work. And by
2 my count, that is about 50 percent of the total
3 waste rock that was disposed during the entire pit
4 collaboration. And that is 181 divided by
5 312 million?

6 A. Okay. If you say so, Counsel.

7 Q. Okay. Now, Dr. Haddad, you opine that
8 Chevron dumped the majority of the waste rock and
9 that is clear from your table, after December of
10 1969, correct?

11 A. Yes. I don't know if it is exactly the
12 majority, but, yeah, close to it.

13 Q. And in general are you aware that Chevron
14 started stripping the overburden in the upper
15 elevations of the pit first?

16 A. That is my understanding.

17 Q. And we mentioned Goat Hill North and
18 South, for example, Caplene, those are the dumps in
19 the highest elevations of the mine site, correct?

20 A. Around the back, yes.

21 Q. You pointed out in your testimony earlier
22 that those dumps were used first, they filled up
23 first, right?

24 A. Right.

25 Q. You see that on your chart as you move

1 **through time. And then as Chevron dug deeper down**
2 **into the pit, it started to use waste dumps that**
3 **were in the lower elevations above the river,**
4 **correct?**

5 A. Yeah. But keep in mind that, you know,
6 they talk about the delta slice the delta crime, the
7 gamma slice.

8 THE WITNESS: Which, Your Honor, is just
9 their terminology for when they had this, this very
10 steep slope that they realized that they had a
11 failure, they had to step it back like so
12 (indicating).

13 And these slices, I think it is accurate
14 to pretend that the top of these slices came off
15 first and the bottom of these slices came off
16 sometime later.

17 **Q. (By Mr. Augustini) The general idea by**
18 **the mining engineers was to avoid hauling waste**
19 **uphill or downhill. They wanted to dispose it at**
20 **the same elevation, if possible, correct?**

21 A. That is my understanding of reading the
22 literature.

23 **Q. Okay.**

24 MR. AUGUSTINI: Let's pull up U.S.
25 Demonstrative 2, please.

1 Q. **(By Mr. Augustini) Dr. Haddad, do you see**
2 **in the green lettering the location of the Red River**
3 **and Highway 38 are shown?**

4 A. Yes, I do.

5 Q. **And then you mentioned the roadside piles**
6 **in your testimony. That would be those three, Sugar**
7 **Shack South, Middle and Sulphur Gold South, correct?**

8 A. Correct.

9 Q. **Those are in the lower elevation as above**
10 **Highway 38, right?**

11 A. Well, they extend up.

12 Q. **Yes.**

13 A. So just to make sure that you are not
14 implying that that Sugar Shack South is just the
15 bottom from that first bend southward or down to the
16 river.

17 Q. **Not at all. They are about a thousand**
18 **feet high waste-rock piles, right?**

19 A. That is correct.

20 Q. **And then this demonstrative also labels**
21 **the pit area, as we have mentioned, do you see**
22 **within the orange circle the blue lettering for west**
23 **wall?**

24 A. I see that.

25 Q. **And that is, you can confirm that is the**

1 **west pit wall, correct?**

2 A. It looks like the west pit wall to me.

3 Q. And you are aware that the west pit wall
4 caused many problems for the open pit operation,
5 correct?

6 A. Yes, that is correct.

7 Q. And that is why Chevron conducted, I'm
8 sorry, developed a revised mining plan after
9 December 1969, correct?

10 A. I assume so.

11 Q. The original mining plan called for a
12 waste-to-ore generation ratio of two-to-one, right?

13 A. That's correct.

14 Q. And then to deal with the fault or the
15 instability or weakness, different people call it
16 different things?

17 A. Right.

18 Q. That is not important, but to deal with
19 the problem in the west pit wall, Chevron upped the
20 waste-ore ratio to ten-to-one, right?

21 A. That is right.

22 Q. So the mining plan was to generate four to
23 five times more waste, right?

24 A. Correct.

25 Q. And the revised mining plan was

1 **implemented after December 1969, right?**

2 A. Right.

3 **Q. So it is no surprise that the amount of**
4 **waste rock increased because the mill was expanded,**
5 **the size of the open pit operation was expanded,**
6 **correct?**

7 A. Are you asking me to draw an opinion on
8 why they --

9 **Q. No, just that those things happened --**

10 A. Right.

11 **Q. -- in chronological order, correct?**

12 A. Right.

13 **Q. The revised plan clearly led to more waste**
14 **deposit at the Questa Mine?**

15 A. That is right. I think the mill expansion
16 actually occurred before that, but, yeah.

17 MR. AUGUSTINI: That is it, Your Honor, no
18 more questions.

19 THE COURT: Do you have any redirect?

20 MS. CRISHAM PELLEGRINI: I do, Your Honor.

21 THE COURT: Let's take about a 15-minute
22 break before we get there.

23 MS. CRISHAM PELLEGRINI: Sounds good.

24 Thank you, Your Honor.

25 THE COURT: We'll be in recess for 15

1 minutes.

2 (A recess was taken.)

3 THE COURT: You may redirect.

4 REDIRECT EXAMINATION

5 BY MS. CRISHAM PELLEGRINI:

6 Q. Dr. Haddad, I only have four questions.

7 What percentage of all of the waste rock
8 that was placed at the Questa site was placed on
9 land, either owned by the Federal Government at the
10 time it was disposed of, or was placed on land that
11 the Federal Government provided to Molycorp for the
12 expressed purpose of waste disposal?

13 And if it is helpful, we can pull up your
14 chart.

15 A. That would be helpful, thank you.

16 MS. CRISHAM PELLEGRINI: 465, please.

17 Q. (By Ms. Crisham Pellegrini) This is the
18 chart that the Government talked about with you
19 quite a bit.

20 So if we look at this chart and on the
21 bottom of the chart there is a whole list of -- so I
22 will ask my question again.

23 What percentage of all of the waste rock
24 that was placed at the Questa site was placed on
25 land either was unpatented at the time it was placed

1 or was placed on exchanged land, which was land
2 provided by the Government?

3 A. So that would be 60 percent. It is the
4 number at the bottom of the 1984 series of columns.
5 And that is the 187 million tons divided into the
6 312 million tons or 313 million tons.

7 Q. And, Dr. Haddad, did any of the questions
8 asked by the Government today change your opinion
9 about that figure?

10 A. No. No, not at all.

11 Q. Based on your review of the record, was
12 the Government aware at all times that Molycorp was
13 and would be placing waste rock on this unpatented
14 land or the exchange land?

15 A. Yes. It seems very clear from reading the
16 record over the number of years.

17 Q. And could the Questa Mine have operated at
18 all without the ability to deposit this waste rock
19 on this land that was owned by or supplied by the
20 United States?

21 MR. AUGUSTINI: Objection, Your Honor,
22 speculation. He is not a mining engineer.

23 THE COURT: Overruled.

24 A. Well, since they couldn't put it across
25 the river, the only other option would have been not

1 to continue the open pit mining.

2 MS. CRISHAM PELLEGRINI: Thank you,
3 Dr. Haddad. No further questions.

4 THE COURT: Thank you very much. You may
5 be excused.

6 THE WITNESS: Thank you, sir.
7 (Whereupon, the witness was excused.)

8 THE COURT: Is there any rebuttal by
9 Chevron?

10 MS. CRISHAM PELLEGRINI: No, Your Honor.
11 Chevron rests.

12 THE COURT: The case will be submitted and
13 you have now the briefing schedule, I think, is
14 already in works.

15 MR. AUGUSTINI: Your order provided
16 40 days after the conclusion of proceedings.

17 THE COURT: I think after the transcript.
18 I forget exactly how it read.

19 MR. AUGUSTINI: We are fine with that,
20 Your Honor, and I believe Chevron is as well.

21 MS. CRISHAM PELLEGRINI: We are,
22 Your Honor.

23 THE COURT: Thank you very much. I
24 appreciate your presentations. They are very
25 helpful. And we will be in recess.

1 (Proceedings concluded at 10:38 a.m.)
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REPORTER'S CERTIFICATE

I certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter. I further certify that the transcript fees and format comply with those prescribed by the Court and the Judicial Conference of the United States.

Date: April 21, 2022

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